

260276US0PCT.ST25  
SEQUENCE LISTING

<110> MORI, HIROSHI

<120> GAMMA-SECRETASE INHIBITORS

<130> 260276US0PCT

<140> 10/511,269

<141> 2004-10-20

<150> PCT/JP03/050117

<151> 2003-04-18

<150> JP2002-121983

<151> 2002-04-24

<160> 13

<170> PatentIn version 3.3

<210> 1

<211> 17

<212> PRT

<213> Homo sapiens

<400> 1

Val Val Ile Ala Thr Val Ile Val Ile Thr Leu Val Met Leu Lys Lys  
1 5 10 15

Lys

<210> 2

<211> 6

<212> PRT

<213> Homo sapiens

<400> 2

Ile Thr Leu Val Met Leu  
1 5

<210> 3

<211> 4

<212> PRT

<213> Homo sapiens

<400> 3

Leu Val Met Leu  
1

<210> 4

<211> 4

<212> PRT

<213> Homo sapiens

<400> 4

Thr Leu Val Met  
1

<210> 5  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<400> 5

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg  
 1 5 10

<210> 6  
 <211> 2088  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (1)..(2088)

<400> 6  
 atg ctg ccc ggt ttg gca ctg ctc ctg ctg gcc gcc tgg acg gct cgg 48  
 Met Leu Pro Gly Leu Ala Leu Leu Leu Leu Ala Ala Trp Thr Ala Arg  
 1 5 10 15  
 gcg ctg gag gta ccc act gat ggt aat gct ggc ctg ctg gct gaa ccc 96  
 Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro  
 20 25 30  
 cag att gcc atg ttc tgt ggc aga ctg aac atg cac atg aat gtc cag 144  
 Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln  
 35 40 45  
 aat ggg aag tgg gat tca gat cca tca ggg acc aaa acc tgc att gat 192  
 Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp  
 50 55 60  
 acc aag gaa ggc atc ctg cag tat tgc caa gaa gtc tac cct gaa ctg 240  
 Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu  
 65 70 75 80  
 cag atc acc aat gtg gta gaa gcc aac caa cca gtg acc atc cag aac 288  
 Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn  
 85 90 95  
 tgg tgc aag cgg ggc cgc aag cag tgc aag acc cat ccc cac ttt gtg 336  
 Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val  
 100 105 110  
 att ccc tac cgc tgc tta gtt ggt gag ttt gta agt gat gcc ctt ctc 384  
 Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu  
 115 120 125  
 gtt cct gac aag tgc aaa ttc tta cac cag gag agg atg gat gtt tgc 432  
 Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys  
 130 135 140  
 gaa act cat ctt cac tgg cac acc gtc gcc aaa gag aca tgc agt gag 480  
 Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu  
 145 150 155 160  
 aag agt acc aac ttg cat gac tac ggc atg ttg ctg ccc tgc gga att 528  
 Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile  
 165 170 175  
 gac aag ttc cga ggg gta gag ttt gtg tgt tgc cca ctg gct gaa gaa 576

260276US0PCT.ST25																
Asp	Lys	Phe	Arg 180	Gly	Val	Glu	Phe	Val 185	Cys	Cys	Pro	Leu	Ala 190	Glu	Glu	
agt Ser	gac Asp	aat Asn 195	gtg Val	gat Asp	tct Ser	gct Ala	gat Asp 200	gcg Ala	gag Glu	gag Glu	gat Asp	gac Asp 205	tcg Ser	gat Asp	gtc Val	624
tgg Trp 210	tgg Trp 210	ggc Gly	gga Gly	gca Ala	gac Asp	aca Thr 215	gac Asp	tat Tyr	gca Ala	gat Asp	ggg Gly 220	agt Ser	gaa Glu	gac Asp	aaa Lys	672
gta Val 225	gta Val	gaa Glu	gta Val	gca Ala	gag Glu 230	gag Glu	gaa Glu	gaa Glu	gtg Val	gct Ala 235	gag Glu	gtg Val	gaa Glu	gaa Glu	gaa Glu 240	720
gaa Glu	gcc Ala	gat Asp	gat Asp	gac Asp 245	gag Glu	gac Asp	gat Asp	gag Glu	gat Asp 250	ggt Gly	gat Asp	gag Glu	gta Val	gag Glu 255	gaa Glu	768
gag Glu	gct Ala	gag Glu	gaa Glu 260	ccc Pro	tac Tyr	gaa Glu	gaa Glu	gcc Ala 265	aca Thr	gag Glu	aga Arg	acc Thr 270	acc Thr	agc Ser	att Ile	816
gcc Ala	acc Thr	acc Thr 275	acc Thr	acc Thr	acc Thr	acc Thr	aca Thr 280	gag Glu	tct Ser	gtg Val	gaa Glu	gag Glu 285	gtg Val	gtt Val	cga Arg	864
gtt Val	cct Pro 290	aca Thr	aca Thr	gca Ala	gcc Ala	agt Ser 295	acc Thr	cct Pro	gat Asp	gcc Ala	gtt Val 300	gac Asp	aag Lys	tat Tyr	ctc Leu	912
gag Glu 305	aca Thr	cct Pro	ggg Gly	gat Asp	gag Glu 310	aat Asn	gaa Glu	cat His	gcc Ala	cat His 315	ttc Phe	cag Gln	aaa Lys	gcc Ala	aaa Lys 320	960
gag Glu	agg Arg	ctt Leu	gag Glu	gcc Ala 325	aag Lys	cac His	cga Arg	gag Glu	aga Arg 330	atg Met	tcc Ser	cag Gln	gtc Val	atg Met 335	aga Arg	1008
gaa Glu	tgg Trp	gaa Glu	gag Glu 340	gca Ala	gaa Glu	cgt Arg	caa Gln	gca Ala 345	aag Lys	aac Asn	ttg Leu	cct Pro	aaa Lys 350	gct Ala	gat Asp	1056
aag Lys	aag Lys	gca Ala 355	gtt Val	atc Ile	cag Gln	cat His	ttc Phe 360	cag Gln	gag Glu	aaa Lys	gtg Val	gaa Glu 365	tct Ser	ttg Leu	gaa Glu	1104
cag Gln 370	gaa Glu	gca Ala	gcc Ala	aac Asn	gag Glu	aga Arg 375	cag Gln	cag Gln	ctg Leu	gtg Val	gag Glu 380	aca Thr	cac His	atg Met	gcc Ala	1152
aga Arg 385	gtg Val	gaa Glu	gcc Ala	atg Met	ctc Leu 390	aat Asn	gac Asp	cgc Arg	cgc Arg	cgc Arg 395	ctg Leu	gcc Ala	ctg Leu	gag Glu	aac Asn 400	1200
tac Tyr	atc Ile	acc Thr	gct Ala 405	ctg Leu	cag Gln	gct Ala	gtt Val	cct Pro	cct Pro 410	cgg Arg	cct Pro	cgt Arg	cac His	gtg Val 415	ttc Phe	1248
aat Asn	atg Met	cta Leu	aag Lys 420	aag Lys	tat Tyr	gtc Val	cgc Arg	gca Ala 425	gaa Glu	cag Gln	aag Lys	gac Asp	aga Arg 430	cag Gln	cac His	1296
acc Thr	cta Leu	aag Lys 435	cat His	ttc Phe	gag Glu	cat His	gtg Val 440	cgc Arg	atg Met	gtg Val	gat Asp	ccc Pro 445	aag Lys	aaa Lys	gcc Ala	1344
gct	cag	atc	cgg	tcc	cag	gtt	atg	aca	cac	ctc	cgt	gtg	att	tat	gag	1392

260276US0PCT.ST25

Ala	Gln	Ile	Arg	Ser	Gln	Val	Met	Thr	His	Leu	Arg	Val	Ile	Tyr	Glu		
450						455					460						
cg	at	aat	cag	tct	ctc	tcc	ctg	ctc	tac	aac	gtg	cct	gca	gtg	gcc	1440	
Arg	Met	Asn	Gln	Ser	Leu	Ser	Leu	Leu	Tyr	Asn	Val	Pro	Ala	Val	Ala	480	
465					470					475							
gag	gag	att	cag	gat	gaa	gtt	gat	gag	ctg	ctt	cag	aaa	gag	caa	aac	1488	
Glu	Glu	Ile	Gln	Asp	Glu	Val	Asp	Glu	Leu	Leu	Gln	Lys	Glu	Gln	Asn	495	
				485					490					495			
tat	tca	gat	gac	gtc	ttg	gcc	aac	atg	att	agt	gaa	cca	agg	atc	agt	1536	
Tyr	Ser	Asp	Asp	Val	Leu	Ala	Asn	Met	Ile	Ser	Glu	Pro	Arg	Ile	Ser	510	
			500					505					510				
tac	gga	aac	gat	gct	ctc	atg	cca	tct	ttg	acc	gaa	acg	aaa	acc	acc	1584	
Tyr	Gly	Asn	Asp	Ala	Leu	Met	Pro	Ser	Leu	Thr	Glu	Thr	Lys	Thr	Thr	525	
		515					520					525					
gtg	gag	ctc	ctt	ccc	gtg	aat	gga	gag	ttc	agc	ctg	gac	gat	ctc	cag	1632	
Val	Glu	Leu	Leu	Pro	Val	Asn	Gly	Glu	Phe	Ser	Leu	Asp	Asp	Leu	Gln	540	
	530					535					540						
ccg	tgg	cat	tct	ttt	ggg	gct	gac	tct	gtg	cca	gcc	aac	aca	gaa	aac	1680	
Pro	Trp	His	Ser	Phe	Gly	Ala	Asp	Ser	Val	Pro	Ala	Asn	Thr	Glu	Asn	560	
545					550					555					560		
gaa	gtt	gag	cct	gtt	gat	gcc	cgc	cct	gct	gcc	gac	cga	gga	ctg	acc	1728	
Glu	Val	Glu	Pro	Val	Asp	Ala	Arg	Pro	Ala	Ala	Asp	Arg	Gly	Leu	Thr	575	
				565					570					575			
act	cga	cca	ggt	tct	ggg	ttg	aca	aat	atc	aag	acg	gag	gag	atc	tct	1776	
Thr	Arg	Pro	Gly	Ser	Gly	Leu	Thr	Asn	Ile	Lys	Thr	Glu	Glu	Ile	Ser	590	
			580					585					590				
gaa	gtg	aag	atg	gat	gca	gaa	ttc	cga	cat	gac	tca	gga	tat	gaa	gtt	1824	
Glu	Val	Lys	Met	Asp	Ala	Glu	Phe	Arg	His	Asp	Ser	Gly	Tyr	Glu	Val	605	
		595					600					605					
cat	cat	caa	aaa	ttg	gtg	ttc	ttt	gca	gaa	gat	gtg	ggt	tca	aac	aaa	1872	
His	His	Gln	Lys	Leu	Val	Phe	Phe	Ala	Glu	Asp	Val	Gly	Ser	Asn	Lys	620	
		610				615					620						
ggt	gca	atc	att	gga	ctc	atg	gtg	ggc	ggt	gtt	gtc	ata	gcg	aca	gtg	1920	
Gly	Ala	Ile	Ile	Gly	Leu	Met	Val	Gly	Gly	Val	Val	Ile	Ala	Thr	Val	640	
					630					635					640		
atc	gtc	atc	acc	ttg	gtg	atg	ctg	aag	aag	aaa	cag	tac	aca	tcc	att	1968	
Ile	Val	Ile	Thr	Leu	Val	Met	Leu	Lys	Lys	Lys	Gln	Tyr	Thr	Ser	Ile	655	
				645					650					655			
cat	cat	ggt	gtg	gtg	gag	gtt	gac	gcc	gct	gtc	acc	cca	gag	gag	cgc	2016	
His	His	Gly	Val	Val	Glu	Val	Asp	Ala	Ala	Val	Thr	Pro	Glu	Glu	Arg	665	
			660					665					670				
cac	ctg	tcc	aag	atg	cag	cag	aac	ggc	tac	gaa	aat	cca	acc	tac	aag	2064	
His	Leu	Ser	Lys	Met	Gln	Gln	Asn	Gly	Tyr	Glu	Asn	Pro	Thr	Tyr	Lys	685	
		675					680					685					
ttc	ttt	gag	cag	atg	cag	aac	tag									2088	
Phe	Phe	Glu	Gln	Met	Gln	Asn										690	
						695											

<210> 7  
 <211> 695  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 7

Met Leu Pro Gly Leu Ala Leu Leu Leu Leu Ala Ala Trp Thr Ala Arg  
 1 5 10 15

Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro  
 20 25 30

Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln  
 35 40 45

Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp  
 50 55 60

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu  
 65 70 75 80

Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn  
 85 90 95

Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val  
 100 105 110

Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu  
 115 120 125

Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys  
 130 135 140

Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu  
 145 150 155 160

Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile  
 165 170 175

Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu  
 180 185 190

Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val  
 195 200 205

Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys  
 210 215 220

Val Val Glu Val Ala Glu Glu Glu Glu Val Ala Glu Val Glu Glu Glu  
 225 230 235 240

Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu  
 245 250 255

Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile  
 Page 5

Ala Thr Thr Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg  
275 280 285

Val Pro Thr Thr Ala Ala Ser Thr Pro Asp Ala Val Asp Lys Tyr Leu  
290 295 300

Glu Thr Pro Gly Asp Glu Asn Glu His Ala His Phe Gln Lys Ala Lys  
305 310 315 320

Glu Arg Leu Glu Ala Lys His Arg Glu Arg Met Ser Gln Val Met Arg  
325 330 335

Glu Trp Glu Glu Ala Glu Arg Gln Ala Lys Asn Leu Pro Lys Ala Asp  
340 345 350

Lys Lys Ala Val Ile Gln His Phe Gln Glu Lys Val Glu Ser Leu Glu  
355 360 365

Gln Glu Ala Ala Asn Glu Arg Gln Gln Leu Val Glu Thr His Met Ala  
370 375 380

Arg Val Glu Ala Met Leu Asn Asp Arg Arg Arg Leu Ala Leu Glu Asn  
385 390 395 400

Tyr Ile Thr Ala Leu Gln Ala Val Pro Pro Arg Pro Arg His Val Phe  
405 410 415

Asn Met Leu Lys Lys Tyr Val Arg Ala Glu Gln Lys Asp Arg Gln His  
420 425 430

Thr Leu Lys His Phe Glu His Val Arg Met Val Asp Pro Lys Lys Ala  
435 440 445

Ala Gln Ile Arg Ser Gln Val Met Thr His Leu Arg Val Ile Tyr Glu  
450 455 460

Arg Met Asn Gln Ser Leu Ser Leu Leu Tyr Asn Val Pro Ala Val Ala  
465 470 475 480

Glu Glu Ile Gln Asp Glu Val Asp Glu Leu Leu Gln Lys Glu Gln Asn  
485 490 495

Tyr Ser Asp Asp Val Leu Ala Asn Met Ile Ser Glu Pro Arg Ile Ser  
500 505 510

Tyr Gly Asn Asp Ala Leu Met Pro Ser Leu Thr Glu Thr Lys Thr Thr  
515 520 525

Val Glu Leu Leu Pro Val Asn Gly Glu Phe Ser Leu Asp Asp Leu Gln

530

535

Pro Trp His Ser Phe Gly Ala Asp Ser Val Pro Ala Asn Thr Glu Asn  
545 550 555 560

Glu Val Glu Pro Val Asp Ala Arg Pro Ala Ala Asp Arg Gly Leu Thr  
565 570 575

Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser  
580 585 590

Glu Val Lys Met Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val  
595 600 605

His His Gln Lys Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys  
610 615 620

Gly Ala Ile Ile Gly Leu Met Val Gly Gly Val Val Ile Ala Thr Val  
625 630 635 640

Ile Val Ile Thr Leu Val Met Leu Lys Lys Lys Gln Tyr Thr Ser Ile  
645 650 655

His His Gly Val Val Glu Val Asp Ala Ala Val Thr Pro Glu Glu Arg  
660 665 670

His Leu Ser Lys Met Gln Gln Asn Gly Tyr Glu Asn Pro Thr Tyr Lys  
675 680 685

Phe Phe Glu Gln Met Gln Asn  
690 695

<210> 8  
<211> 2313  
<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS  
<222> (1)..(2313)

<400> 8  
atg ctg ccc ggt ttg gca ctg ctc ctg ctg gcc gcc tgg acg gct cgg 48  
Met Leu Pro Gly Leu Ala Leu Leu Leu Leu Ala Ala Trp Thr Ala Arg  
1 5 10 15

gcg ctg gag gta ccc act gat ggt aat gct ggc ctg ctg gct gaa ccc 96  
Ala Leu Glu Val Pro Thr Asp Gly Asn Ala Gly Leu Leu Ala Glu Pro  
20 25 30

cag att gcc atg ttc tgt ggc aga ctg aac atg cac atg aat gtc cag 144  
Gln Ile Ala Met Phe Cys Gly Arg Leu Asn Met His Met Asn Val Gln  
35 40 45

aat ggg aag tgg gat tca gat cca tca ggg acc aaa acc tgc att gat 192  
Asn Gly Lys Trp Asp Ser Asp Pro Ser Gly Thr Lys Thr Cys Ile Asp

260276US0PCT.ST25  
60

50	55	60	
acc aag gaa ggc atc ctg cag tat tgc caa gaa gtc tac cct gaa ctg Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu 65 70 75 80			240
cag atc acc aat gtg gta gaa gcc aac caa cca gtg acc atc cag aac Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn 85 90 95			288
tgg tgc aag cgg ggc cgc aag cag tgc aag acc cat ccc cac ttt gtg Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val 100 105 110			336
att ccc tac cgc tgc tta gtt ggt gag ttt gta agt gat gcc ctt ctc Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu 115 120 125			384
gtt cct gac aag tgc aaa ttc tta cac cag gag agg atg gat gtt tgc Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys 130 135 140			432
gaa act cat ctt cac tgg cac acc gtc gcc aaa gag aca tgc agt gag Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu 145 150 155 160			480
aag agt acc aac ttg cat gac tac ggc atg ttg ctg ccc tgc gga att Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile 165 170 175			528
gac aag ttc cga ggg gta gag ttt gtg tgt tgc cca ctg gct gaa gaa Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu 180 185 190			576
agt gac aat gtg gat tct gct gat gcg gag gag gat gac tcg gat gtc Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val 195 200 205			624
tgg tgg ggc gga gca gac aca gac tat gca gat ggg agt gaa gac aaa Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys 210 215 220			672
gta gta gaa gta gca gag gag gaa gaa gtg gct gag gtg gaa gaa gaa Val Val Glu Val Ala Glu Glu Glu Glu Val Ala Glu Val Glu Glu Glu 225 230 235 240			720
gaa gcc gat gat gac gag gac gat gag gat ggt gat gag gta gag gaa Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu 245 250 255			768
gag gct gag gaa ccc tac gaa gaa gcc aca gag aga acc acc agc att Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile 260 265 270			816
gcc acc acc acc acc acc acc aca gag tct gtg gaa gag gtg gtt cga Ala Thr Thr Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg 275 280 285			864
gag gtg tgc tct gaa caa gcc gag acg ggg ccg tgc cga gca atg atc Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met Ile 290 295 300			912
tcc cgc tgg tac ttt gat gtg act gaa ggg aag tgt gcc cca ttc ttt Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe 305 310 315 320			960
tac ggc gga tgt ggc ggc aac cgg aac aac ttt gac aca gaa gag tac Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr 325 330 335 340			1008



## 260276US0PCT.ST25

325																330																335																
tgc	atg	gcc	gtg	tgt	ggc	agc	gcc	atg	tcc	caa	agt	tta	ctc	aag	act	1056																																
Cys	Met	Ala	Val	Cys	Gly	Ser	Ala	Met	Ser	Gln	Ser	Leu	Leu	Lys	Thr																																	
			340				345						350																																			
acc	cag	gaa	cct	ctt	ggc	cga	gat	cct	gtt	aaa	ctt	cct	aca	aca	gca	1104																																
Thr	Gln	Glu	Pro	Leu	Gly	Arg	Asp	Pro	Val	Lys	Leu	Pro	Thr	Thr	Ala																																	
			355				360						365																																			
gcc	agt	acc	cct	gat	gcc	gtt	gac	aag	tat	ctc	gag	aca	cct	ggg	gat	1152																																
Ala	Ser	Thr	Pro	Asp	Ala	Val	Asp	Lys	Tyr	Leu	Glu	Thr	Pro	Gly	Asp																																	
			370				375						380																																			
gag	aat	gaa	cat	gcc	cat	ttc	cag	aaa	gcc	aaa	gag	agg	ctt	gag	gcc	1200																																
Glu	Asn	Glu	His	Ala	His	Phe	Gln	Lys	Ala	Lys	Glu	Arg	Leu	Glu	Ala																																	
			385				390						395			400																																
aag	cac	cga	gag	aga	atg	tcc	cag	gtc	atg	aga	gaa	tgg	gaa	gag	gca	1248																																
Lys	His	Arg	Glu	Arg	Met	Ser	Gln	Val	Met	Arg	Glu	Trp	Glu	Glu	Ala																																	
			405							410			415																																			
gaa	cgt	caa	gca	aag	aac	ttg	cct	aaa	gct	gat	aag	aag	gca	gtt	atc	1296																																
Glu	Arg	Gln	Ala	Lys	Asn	Leu	Pro	Lys	Ala	Asp	Lys	Lys	Ala	Val	Ile																																	
			420				425						430																																			
cag	cat	ttc	cag	gag	aaa	gtg	gaa	tct	ttg	gaa	cag	gaa	gca	gcc	aac	1344																																
Gln	His	Phe	Gln	Glu	Lys	Val	Glu	Ser	Leu	Glu	Gln	Glu	Ala	Ala	Asn																																	
			435				440						445																																			
gag	aga	cag	cag	ctg	gtg	gag	aca	cac	atg	gcc	aga	gtg	gaa	gcc	atg	1392																																
Glu	Arg	Gln	Gln	Leu	Val	Glu	Thr	His	Met	Ala	Arg	Val	Glu	Ala	Met																																	
			450				455						460																																			
ctc	aat	gac	cgc	cgc	cgc	ctg	gcc	ctg	gag	aac	tac	atc	acc	gct	ctg	1440																																
Leu	Asn	Asp	Arg	Arg	Arg	Leu	Ala	Leu	Glu	Asn	Tyr	Ile	Thr	Ala	Leu																																	
			465				470						475			480																																
cag	gct	gtt	cct	cct	cgg	cct	cgt	cac	gtg	ttc	aat	atg	cta	aag	aag	1488																																
Gln	Ala	Val	Pro	Pro	Arg	Pro	Arg	His	Val	Phe	Asn	Met	Leu	Lys	Lys																																	
			485							490			495																																			
tat	gtc	cgc	gca	gaa	cag	aag	gac	aga	cag	cac	acc	cta	aag	cat	ttc	1536																																
Tyr	Val	Arg	Ala	Glu	Gln	Lys	Asp	Arg	Gln	His	Thr	Leu	Lys	His	Phe																																	
			500				505						510																																			
gag	cat	gtg	cgc	atg	gtg	gat	ccc	aag	aaa	gcc	gct	cag	atc	cgg	tcc	1584																																
Glu	His	Val	Arg	Met	Val	Asp	Pro	Lys	Lys	Ala	Ala	Gln	Ile	Arg	Ser																																	
			515				520						525																																			
cag	gtt	atg	aca	cac	ctc	cgt	gtg	att	tat	gag	cgc	atg	aat	cag	tct	1632																																
Gln	Val	Met	Thr	His	Leu	Arg	Val	Ile	Tyr	Glu	Arg	Met	Asn	Gln	Ser																																	
			530				535						540																																			
ctc	tcc	ctg	ctc	tac	aac	gtg	cct	gca	gtg	gcc	gag	gag	att	cag	gat	1680																																
Leu	Ser	Leu	Leu	Tyr	Asn	Val	Pro	Ala	Val	Ala	Glu	Glu	Ile	Gln	Asp																																	
			545				550						555			560																																
gaa	gtt	gat	gag	ctg	ctt	cag	aaa	gag	caa	aac	tat	tca	gat	gac	gtc	1728																																
Glu	Val	Asp	Glu	Leu	Leu	Gln	Lys	Glu	Gln	Asn	Tyr	Ser	Asp	Asp	Val																																	
			565				570						575																																			
ttg	gcc	aac	atg	att	agt	gaa	cca	agg	atc	agt	tac	gga	aac	gat	gct	1776																																
Leu	Ala	Asn	Met	Ile	Ser	Glu	Pro	Arg	Ile	Ser	Tyr	Gly	Asn	Asp	Ala																																	
			580				585						590																																			
ctc	atg	cca	tct	ttg	acc	gaa	acg	aaa	acc	acc	gtg	gag	ctc	ctt	ccc	1824																																
Leu	Met	Pro	Ser	Leu	Thr	Glu	Thr	Lys	Thr	Thr	Val	Glu	Leu	Leu	Pro																																	

## 260276US0PCT.ST25

595

600

605

gtg Val	aat Asn 610	gga Gly	gag Glu	ttc Phe	agc Ser	ctg Leu 615	gac Asp	gat Asp	ctc Leu	cag Gln	ccg Pro 620	tgg Trp	cat His	tct Ser	ttt Phe	1872
ggg Gly 625	gct Ala	gac Asp	tct Ser	gtg Val	cca Pro 630	gcc Ala	aac Asn	aca Thr	gaa Glu	aac Asn 635	gaa Glu	gtt Val	gag Glu	cct Pro	gtt Val 640	1920
gat Asp	gcc Ala	cgc Arg	cct Pro	gct Ala 645	gcc Ala	gac Asp	cga Arg	gga Gly	ctg Leu 650	acc Thr	act Thr	cga Arg	cca Pro	ggt Gly 655	tct Ser	1968
ggg Gly	ttg Leu	aca Thr	aat Asn 660	atc Ile	aag Lys	acg Thr	gag Glu	gag Glu 665	atc Ile	tct Ser	gaa Glu	gtg Val	aag Lys 670	atg Met	gat Asp	2016
gca Ala	gaa Glu	ttc Phe 675	cga Arg	cat His	gac Asp	tca Ser	gga Gly 680	tat Tyr	gaa Glu	gtt Val	cat His	cat His 685	caa Gln	aaa Lys	ttg Leu	2064
gtg Val	ttc Phe 690	ttt Phe	gca Ala	gaa Glu	gat Asp	gtg Val 695	ggt Gly	tca Ser	aac Asn	aaa Lys	ggt Gly 700	gca Ala	atc Ile	att Ile	gga Gly	2112
ctc Leu 705	atg Met	gtg Val	ggc Gly	ggt Gly	gtt Val 710	gtc Val	ata Ile	gcg Ala	aca Thr	gtg Val 715	atc Ile	gtc Val	atc Ile	acc Thr	ttg Leu 720	2160
gtg Val	atg Met	ctg Leu	aag Lys	aag Lys 725	aaa Lys	cag Gln	tac Tyr	aca Thr	tcc Ser 730	att Ile	cat His	cat His	ggt Gly	gtg Val 735	gtg Val	2208
gag Glu	gtt Val	gac Asp	gcc Ala 740	gct Ala	gtc Val	acc Thr	cca Pro	gag Glu 745	gag Glu	cgc Arg	cac His	ctg Leu	tcc Ser 750	aag Lys	atg Met	2256
cag Gln	cag Gln	aac Asn 755	ggc Gly	tac Tyr	gaa Glu	aat Asn	cca Pro 760	acc Thr	tac Tyr	aag Lys	ttc Phe	ttt Phe 765	gag Glu	cag Gln	atg Met	2304
cag Gln	aac Asn 770	tag														2313

<210> 9  
 <211> 770  
 <212> PRT  
 <213> Homo sapiens

<400> 9

Met 1	Leu	Pro	Gly	Leu 5	Ala	Leu	Leu	Leu	Leu 10	Ala	Ala	Trp	Thr	Ala 15	Arg	
Ala	Leu	Glu	Val 20	Pro	Thr	Asp	Gly	Asn 25	Ala	Gly	Leu	Leu	Ala 30	Glu	Pro	
Gln	Ile	Ala 35	Met	Phe	Cys	Gly	Arg 40	Leu	Asn	Met	His 45	Met	Asn	Val	Gln	
Asn	Gly 50	Lys	Trp	Asp	Ser	Asp 55	Pro	Ser	Gly	Thr	Lys 60	Thr	Cys	Ile	Asp	

Thr Lys Glu Gly Ile Leu Gln Tyr Cys Gln Glu Val Tyr Pro Glu Leu  
 65 70 75 80  
 Gln Ile Thr Asn Val Val Glu Ala Asn Gln Pro Val Thr Ile Gln Asn  
 85 90 95  
 Trp Cys Lys Arg Gly Arg Lys Gln Cys Lys Thr His Pro His Phe Val  
 100 105 110  
 Ile Pro Tyr Arg Cys Leu Val Gly Glu Phe Val Ser Asp Ala Leu Leu  
 115 120 125  
 Val Pro Asp Lys Cys Lys Phe Leu His Gln Glu Arg Met Asp Val Cys  
 130 135 140  
 Glu Thr His Leu His Trp His Thr Val Ala Lys Glu Thr Cys Ser Glu  
 145 150 155 160  
 Lys Ser Thr Asn Leu His Asp Tyr Gly Met Leu Leu Pro Cys Gly Ile  
 165 170 175  
 Asp Lys Phe Arg Gly Val Glu Phe Val Cys Cys Pro Leu Ala Glu Glu  
 180 185 190  
 Ser Asp Asn Val Asp Ser Ala Asp Ala Glu Glu Asp Asp Ser Asp Val  
 195 200 205  
 Trp Trp Gly Gly Ala Asp Thr Asp Tyr Ala Asp Gly Ser Glu Asp Lys  
 210 215 220  
 Val Val Glu Val Ala Glu Glu Glu Glu Val Ala Glu Val Glu Glu Glu  
 225 230 235 240  
 Glu Ala Asp Asp Asp Glu Asp Asp Glu Asp Gly Asp Glu Val Glu Glu  
 245 250 255  
 Glu Ala Glu Glu Pro Tyr Glu Glu Ala Thr Glu Arg Thr Thr Ser Ile  
 260 265 270  
 Ala Thr Thr Thr Thr Thr Thr Thr Glu Ser Val Glu Glu Val Val Arg  
 275 280 285  
 Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met Ile  
 290 295 300  
 Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe  
 305 310 315 320  
 Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr  
 325 330 335

## 260276US0PCT.ST25

Cys Met Ala Val Cys Gly Ser Ala Met Ser Gln Ser Leu Leu Lys Thr  
 340 345 350  
 Thr Gln Glu Pro Leu Gly Arg Asp Pro Val Lys Leu Pro Thr Thr Ala  
 355 360 365  
 Ala Ser Thr Pro Asp Ala Val Asp Lys Tyr Leu Glu Thr Pro Gly Asp  
 370 375 380  
 Glu Asn Glu His Ala His Phe Gln Lys Ala Lys Glu Arg Leu Glu Ala  
 385 390 395 400  
 Lys His Arg Glu Arg Met Ser Gln Val Met Arg Glu Trp Glu Glu Ala  
 405 410 415  
 Glu Arg Gln Ala Lys Asn Leu Pro Lys Ala Asp Lys Lys Ala Val Ile  
 420 425 430  
 Gln His Phe Gln Glu Lys Val Glu Ser Leu Glu Gln Glu Ala Ala Asn  
 435 440 445  
 Glu Arg Gln Gln Leu Val Glu Thr His Met Ala Arg Val Glu Ala Met  
 450 455 460  
 Leu Asn Asp Arg Arg Arg Leu Ala Leu Glu Asn Tyr Ile Thr Ala Leu  
 465 470 475 480  
 Gln Ala Val Pro Pro Arg Pro Arg His Val Phe Asn Met Leu Lys Lys  
 485 490 495  
 Tyr Val Arg Ala Glu Gln Lys Asp Arg Gln His Thr Leu Lys His Phe  
 500 505 510  
 Glu His Val Arg Met Val Asp Pro Lys Lys Ala Ala Gln Ile Arg Ser  
 515 520 525  
 Gln Val Met Thr His Leu Arg Val Ile Tyr Glu Arg Met Asn Gln Ser  
 530 535 540  
 Leu Ser Leu Leu Tyr Asn Val Pro Ala Val Ala Glu Glu Ile Gln Asp  
 545 550 555 560  
 Glu Val Asp Glu Leu Leu Gln Lys Glu Gln Asn Tyr Ser Asp Asp Val  
 565 570 575  
 Leu Ala Asn Met Ile Ser Glu Pro Arg Ile Ser Tyr Gly Asn Asp Ala  
 580 585 590  
 Leu Met Pro Ser Leu Thr Glu Thr Lys Thr Thr Val Glu Leu Leu Pro  
 595 600 605

Val Asn Gly Glu Phe Ser Leu Asp Asp Leu Gln Pro Trp His Ser Phe  
610 615 620

Gly Ala Asp Ser Val Pro Ala Asn Thr Glu Asn Glu Val Glu Pro Val  
625 630 635 640

Asp Ala Arg Pro Ala Ala Asp Arg Gly Leu Thr Thr Arg Pro Gly Ser  
645 650 655

Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Val Lys Met Asp  
660 665 670

Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys Leu  
675 680 685

Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile Gly  
690 695 700

Leu Met Val Gly Gly Val Val Ile Ala Thr Val Ile Val Ile Thr Leu  
705 710 715 720

Val Met Leu Lys Lys Lys Gln Tyr Thr Ser Ile His His Gly Val Val  
725 730 735

Glu Val Asp Ala Ala Val Thr Pro Glu Glu Arg His Leu Ser Lys Met  
740 745 750

Gln Gln Asn Gly Tyr Glu Asn Pro Thr Tyr Lys Phe Phe Glu Gln Met  
755 760 765

Gln Asn  
770

<210> 10  
<211> 10  
<212> PRT  
<213> Homo sapiens

<400> 10

Val Val Ile Ala Thr Val Ile Val Ile Thr  
1 5 10

<210> 11  
<211> 11  
<212> PRT  
<213> Homo sapiens

<400> 11

Val Val Ile Ala Thr Val Ile Val Ile Thr Leu  
1 5 10

260276US0PCT.ST25

<210> 12  
<211> 7  
<212> PRT  
<213> Homo sapiens

<400> 12

Leu Val Met Leu Lys Lys Lys  
1 5

<210> 13  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 13

Val Met Leu Lys Lys Lys  
1 5